



## IV. Application

### A. Economic Problems

- Click on the "Health" site.
- Read the site, think about the impacts of ozone depletion and answer the following question.

1. Describe the economic effects on people affected by ozone depletion. Include medical problems in humans, crops, and livestock.

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- Click "Back" to get back to the OAR Ozone Application site.

## B. Ozone Formation



- Click on the "Ozone Shield" site.
- Read the "Ozone and Humankind" section.



1. Recall that oxygen we can breathe exists as a molecule of two oxygen atoms bound together ( $O_2$ ). Draw how three oxygen molecules can turn into two ozone molecules ( $O_3$ ). Include all three steps and show everything necessary for the reaction to occur.



- Click "Back" until you get back to the OAR Ozone main screen.

## V. Enrichment Activities

### A. Research



1. Use resources on the Internet to write a report on electric cars. Include how they could help lower nitrous oxide emissions. Include the energy sources we could use to provide power for the cars if we want to use nonpolluting source of energy.
2. Use resources on the Internet to write a report on fuel cells. Include the use of water electrolysis to make hydrogen from water.
3. Research the relationship of ultraviolet radiation to skin cancer.
4. Research the relationship of ultraviolet radiation to cataracts.
5. Find out how ozone is created by lightning.
6. Research the change in the shape of the Antarctic ozone hole every five years since 1957. Draw the change and label each one.



### B. Newspaper Activities



1. Collect articles related to ozone and summarize each one.

### C. Related Web Sites



1. NOAA's Office of Global Programs Ozone site  
<http://www.ogp.noaa.gov/OGPFront/mono2.html>
2. Aeronomy lab  
<http://www.al.noaa.gov>
3. Commonly asked questions about ozone from the Aeronomy Lab  
<http://www.al.noaa.gov/WWHD/pubdocs/Assessment94/common-questions.html>
4. Climate Diagnostics Laboratory  
[www.cmdl.noaa.gov/](http://www.cmdl.noaa.gov/)